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APPLICANT: Shaun Shuxun WANG

SERIAL NO: _____

FILED: _____
TITLE: SYSTEM AND METHOD FOR PRICING
FINANCIAL AND INSURANCE RISKS WITH
HISTORICALLY KNOWN OR COMPUTER...
DOCKET: CU-2319 DATE: 08/06/01

Inventor: Shaun Wang
Title: Computer System and Pricing
Financial and Insurance Risks ...
Application No. 09/923,377
Replacement Tables

Table 1.
Unsorted Intel Stock Price Distribution

Column 1A	Column 1B	Column 1C	Column 1D step 203	Column 1E step 203
Monthly Index	Monthly Return	Current Price (\$)	Prospective Future Stock Price Outcome	Respective Probability
Jun-00	0.03084	133.69	137.811	0.04167
May-00	0.07014	133.69	143.065	0.04167
Apr-00	-0.08148	133.69	122.795	0.04167
Mar-00	0.13985	133.69	152.385	0.04167
Feb-00	0.14109	133.69	152.550	0.04167
Jan-00	0.23234	133.69	164.750	0.04167
Dec-99	0.07862	133.69	144.199	0.04167
Nov-99	0.00412	133.69	134.239	0.04167
Oct-99	0.01417	133.69	135.583	0.04167
Sep-99	-0.10187	133.69	120.069	0.04167
Aug-99	0.14396	133.69	152.933	0.04167
Jul-99	0.14863	133.69	153.558	0.04167
Jun-99	0.25743	133.69	168.103	0.04167
May-99	-0.18136	133.69	109.442	0.04167
Apr-99	-0.03235	133.69	129.364	0.04167
Mar-99	0.12458	133.69	150.342	0.04167
Feb-99	-0.15784	133.69	112.586	0.04167
Jan-99	0.13549	133.69	151.801	0.04167
Dec-98	0.03097	133.69	137.829	0.04167
Nov-98	0.28941	133.69	172.379	0.04167
Oct-98	0.06891	133.69	142.901	0.04167
Sep-98	0.09787	133.69	146.772	0.04167
Aug-98	-0.10390	133.69	119.798	0.04167
Jul-98	0.15784	133.69	154.790	0.04167
Total				1.00000

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Table 2.
Sorted Intel Stock Price Distribution

Column 2A	Column 2B	Column 2C	Column 2D
	step 204	step 204	step 205
Monthly Index	Prospective Future Stock Price Outcome (\$)	Respective Probability	Cumulative Probability
	x	f(x)	F(x)
May-99	109.44	0.04167	0.04167
Feb-99	112.59	0.04167	0.08333
Aug-98	119.80	0.04167	0.12500
Sep-99	120.07	0.04167	0.16667
Apr-00	122.80	0.04167	0.20833
Apr-99	129.36	0.04167	0.25000
Nov-99	134.24	0.04167	0.29167
Oct-99	135.58	0.04167	0.33333
Jun-00	137.81	0.04167	0.37500
Dec-98	137.83	0.04167	0.41667
Oct-98	142.90	0.04167	0.45833
May-00	143.06	0.04167	0.50000
Dec-99	144.20	0.04167	0.54167
Sep-98	146.77	0.04167	0.58333
Mar-99	150.34	0.04167	0.62500
Jan-99	151.80	0.04167	0.66667
Mar-00	152.38	0.04167	0.70833
Feb-00	152.55	0.04167	0.75000
Aug-99	152.93	0.04167	0.79167
Jul-99	153.56	0.04167	0.83333
Jul-98	154.79	0.04167	0.87500
Jan-00	164.75	0.04167	0.91667
Jun-99	168.10	0.04167	0.95833
Nov-98	172.38	0.04167	1.00000
Total		1.00000	

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Table 3.
Kernel, or Core Process, of the Wang Transform ($\Lambda=0.4525$)

Column 2B	Column 2D	Column 3A	Column 3B	Column 3C
step 102	step 102	step 103	step 104	step 105
Prospective Future Stock Price Outcome (\$)	Cumulative Probability...	... After Applying Normal Inversion	... After Shifting By Adding Lambda	... After Applying Normal Distribution
x	F(x)			
109.44	0.04167	-1.7317	-1.2791	0.10043
112.59	0.08333	-1.3830	-0.9305	0.17607
119.80	0.12500	-1.1503	-0.6978	0.24265
120.07	0.16667	-0.9674	-0.5149	0.30332
122.80	0.20833	-0.8122	-0.3597	0.35954
129.36	0.25000	-0.6745	-0.2220	0.41217
134.24	0.29167	-0.5485	-0.0960	0.46176
135.58	0.33333	-0.4307	0.0218	0.50870
137.81	0.37500	-0.3186	0.1339	0.55326
137.83	0.41667	-0.2104	0.2421	0.59565
142.90	0.45833	-0.1046	0.3479	0.63604
143.06	0.50000	0.0000	0.4525	0.67456
144.20	0.54167	0.1046	0.5572	0.71129
146.77	0.58333	0.2104	0.6630	0.74632
150.34	0.62500	0.3186	0.7712	0.77970
151.80	0.66667	0.4307	0.8833	0.81145
152.38	0.70833	0.5485	1.0011	0.84160
152.55	0.75000	0.6745	1.1270	0.87013
152.93	0.79167	0.8122	1.2648	0.89702
153.56	0.83333	0.9674	1.4200	0.92219
154.79	0.87500	1.1503	1.6029	0.94552
164.75	0.91667	1.3830	1.8355	0.96679
168.10	0.95833	1.7317	2.1842	0.98553
172.38	1.00000	500000.0000	500000.4525	1.00000

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Table 4.
Wang Price of the Future Intel Stock in One Month (Lambda=0.4525)

Column 3B	Column 3C	Column 4A	Column 4B
	step 207	step 208	step 209
Prospective Future Stock-Price Outcome	After Wang Transform	After Decumulation	After Multiplication To Each Outcome
	Transformed Probability	Distorted Probability	Weighted Value
x	$F^*(x)$	$f^*(x)$	$f^*(x) \cdot x$
109.44	0.10042	0.10042	10.990
112.59	0.17606	0.07564	8.516
119.80	0.24264	0.06658	7.976
120.07	0.30330	0.06067	7.284
122.80	0.35953	0.05622	6.904
129.36	0.41216	0.05263	6.809
134.24	0.46175	0.04959	6.657
135.58	0.50869	0.04693	6.363
137.81	0.55324	0.04456	6.141
137.83	0.59564	0.04239	5.843
142.90	0.63603	0.04039	5.772
143.06	0.67455	0.03852	5.510
144.20	0.71128	0.03674	5.297
146.77	0.74631	0.03503	5.141
150.34	0.77969	0.03338	5.018
151.80	0.81144	0.03176	4.821
152.38	0.84159	0.03015	4.594
152.55	0.87013	0.02853	4.353
152.93	0.89701	0.02689	4.112
153.56	0.92218	0.02517	3.865
154.79	0.94552	0.02333	3.611
164.75	0.96678	0.02127	3.504
168.10	0.98552	0.01874	3.150
172.38	1.00000	0.01448	2.495
Total		1.0000	\$ 134.73
			step 210
			\$ 133.94
			step 211

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Table 5.
Wang Price of a European Call Option on Intel Stock with a Strike Price of 140 ($\lambda=0.4685$)

Column 2B	Column 2D	Column 5A step 307	Column 5B step 308	Column 5C step 309	Column 5D step 315	Column 5E step 316
Prospective Future Stock Price Outcome (\$)	Cumulative Probability	After Wang Transform	After Decumulation, Distorted Probability Weight	Weighted Value For Underlying (\$)	Contingent Payoff For Option (\$)	Weighted Value For Option (\$)
x	$F(x)$	$F^*(x)$	$F^*(x)$	$x \cdot F^*(x)$	$\max(x-140, 0)$	$F^*(x) \cdot V(x)$
109.44	0.0417	0.1033	0.1033	11.302	0.00	0.000
112.59	0.0833	0.1802	0.0770	8.665	0.00	0.000
119.80	0.1250	0.2477	0.0674	8.079	0.00	0.000
120.07	0.1667	0.3089	0.0613	7.354	0.00	0.000
122.80	0.2083	0.3655	0.0566	6.952	0.00	0.000
129.36	0.2500	0.4184	0.0529	6.839	0.00	0.000
134.24	0.2917	0.4681	0.0497	6.673	0.00	0.000
135.58	0.3333	0.5151	0.0470	6.366	0.00	0.000
137.81	0.3750	0.5596	0.0445	6.132	0.00	0.000
137.83	0.4167	0.6018	0.0423	5.825	0.00	0.000
142.90	0.4583	0.6420	0.0402	5.744	2.90	0.117
143.06	0.5000	0.6803	0.0383	5.474	3.06	0.117
144.20	0.5417	0.7167	0.0364	5.254	4.20	0.153
146.77	0.5833	0.7514	0.0347	5.091	6.77	0.235
150.34	0.6250	0.7844	0.0330	4.960	10.34	0.341
151.80	0.6667	0.8157	0.0313	4.757	11.80	0.370
152.38	0.7083	0.8454	0.0297	4.525	12.38	0.368
152.55	0.7500	0.8735	0.0281	4.279	12.55	0.352
152.93	0.7917	0.8999	0.0264	4.034	12.93	0.341
153.56	0.8333	0.9245	0.0246	3.783	13.56	0.334
154.79	0.8750	0.9473	0.0228	3.525	14.79	0.337
164.75	0.9167	0.9680	0.0207	3.409	24.75	0.512
168.10	0.9583	0.9861	0.0182	3.051	28.10	0.510
172.38	1.0000	1.0000	0.0139	2.396	32.38	0.450
Total			1.0000	\$ 134.47		\$ 4.54
				step 310		step 317
				\$ 133.69		\$ 4.51
				step 311		step 318

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Table 6.
Wang Price for the Underlying (Lambda=0.0854)

Column 6A	Column 6B	Column 6C	Column 6D	Column 6E	Column 6F
step 304	step 304	step 305	step 307	step 308	step 309
Sorted	Assigned	Cumulative	After Wang	Distorted	Weighted
Outcome (\$)	Probability	Probability	Transform	Probability	Payoff (\$)
x	f(x)	F(x)	F*(x)	f*(x)	f*(x) * x
\$ (123.00)	0.1	0.1	0.1158	0.1158	\$ (14.25)
\$ (21.00)	0.1	0.2	0.2248	0.1089	\$ (2.29)
\$ (9.00)	0.1	0.3	0.3303	0.1056	\$ (0.95)
\$ 7.00	0.1	0.4	0.4333	0.1030	\$ 0.72
\$ 20.00	0.1	0.5	0.5340	0.1007	\$ 2.01
\$ 20.00	0.1	0.6	0.6326	0.0986	\$ 1.97
\$ 28.00	0.1	0.7	0.7290	0.0964	\$ 2.70
\$ 36.00	0.1	0.8	0.8230	0.0940	\$ 3.39
\$ 50.00	0.1	0.9	0.9142	0.0911	\$ 4.56
\$ 57.00	0.1	1.0	1.0000	0.0858	\$ 4.89
Total	1.0000			1.0000	\$ 2.76
					step 311
					\$ 2.58
					step 312

Table 7.
Wang Price for the Put Option with a Strike Price of 0.00 (Lambda=0.10)

Column 6A	Column 6C	Column 7A	Column 7B	Column 7C	Column 7D	Column 7E
		step 307	step 308	step 309	step 315	step 316
Sorted	Cumulative	Wang	Distorted	Weighted	Contingent	Weighted
Outcome (\$)	Probability	Transform	Probability	Value (\$)	Payoff (\$)	Payoff (\$)
x	F(x)	F*(x)	f*(x)	x * f*(x)	-max(-x,0)	f*(x) * V(x)
\$ (123.00)	0.1000	0.1187	0.1187	\$ (14.599)	\$ 123.00	\$ 14.60
\$ (21.00)	0.2000	0.2292	0.1105	\$ (2.320)	\$ 21.00	\$ 2.32
\$ (9.00)	0.3000	0.3356	0.1065	\$ (0.958)	\$ 9.00	\$ 0.96
\$ 7.00	0.4000	0.4391	0.1034	\$ 0.724	\$ -	\$ -
\$ 20.00	0.5000	0.5398	0.1008	\$ 2.015	\$ -	\$ -
\$ 20.00	0.6000	0.6381	0.0983	\$ 1.965	\$ -	\$ -
\$ 28.00	0.7000	0.7338	0.0957	\$ 2.681	\$ -	\$ -
\$ 36.00	0.8000	0.8268	0.0930	\$ 3.348	\$ -	\$ -
\$ 50.00	0.9000	0.9164	0.0896	\$ 4.482	\$ -	\$ -
\$ 57.00	1.0000	1.0000	0.0836	\$ 4.763	\$ -	\$ -
Total			1.0000	\$ 2.10		\$ 17.88
				step 310		step 317
				\$ 1.96		\$ 16.71
				step 311		step 318

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Table 8.
Rating Migration for a BBB-rated Bond over 1 Year

Column 8A	Column 8B	Column 8C	Column 8D	Column 8E
			step 403	step 403
Year-end	Coupon	Forward	Total	Estimated
Rating	Rate	Value	Value (\$)	Probability
AAA	6%	103.37	109.37	0.020%
AA	6%	103.1	109.19	0.330%
A	6%	102.66	108.66	5.950%
BBB	6%	101.55	107.55	86.930%
BB	6%	96.02	102.02	5.300%
B	6%	92.1	98.10	1.170%
CCC	6%	77.64	83.64	0.120%
Default	0%	51.13	51.13	0.180%
Total				100.000%

Table 9. Wang Price of the BBB-bond (Lambda=0.698)

Column 9A	Column 9B	Column 9C	Column 9D	Column 9E	Column 9F	Column 9G
step 404	step 404	step 405	step 407	step 408	step 409	step 410
Total Value	Estimated	Cumulative	After Wang	Distorted	Apply	Weighted
In 1 Year	Probability	Probability	Transform	Probability	Payoff (\$)	Value (\$)
x	f(x)	F(x)	F*(x)	F*(x)	-x	v(x) * F*(x)
51.13	0.00180	0.0018	0.0134	0.01344	51.130	0.687
83.64	0.00120	0.0030	0.0202	0.00675	83.640	0.565
98.10	0.01170	0.0147	0.0694	0.04923	98.100	4.830
102.02	0.05300	0.0677	0.2133	0.14384	102.020	14.674
107.55	0.86930	0.9370	0.9871	0.77380	107.550	83.222
108.66	0.05950	0.9965	0.9997	0.01259	108.660	1.369
109.19	0.00330	0.9998	1.0000	0.00033	109.190	0.036
109.37	0.00020	1.0000	1.0000	0.00001	109.370	0.001
Total	1.00000			1.00000		\$ 105.38
						step 411
						\$ 100.37
						step 412

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Table 10.
Estimation of True Market Price of Risk ($\lambda=0.788$).

Column 9A	Column 9C	Column 10A	Column 10B	Column 10C	Column 10D
	step 405	step 407	step 408	step 409	step 410
Total Value	Cumulative	After Wang	Distorted	Contingent	Weighted
In 1 Year (\$)	Probability	Transform	Probability	Payoff (\$)	Value (\$)
x	$F(x)$	$F^*(x)$	$F^*(x)$	$-x$	$v(x) \cdot F^*(x)$
51.13	0.00180	0.0169	0.01687	51.130	0.862
83.64	0.00300	0.0250	0.00815	83.640	0.681
98.10	0.01470	0.0823	0.05724	98.100	5.615
102.02	0.06770	0.2404	0.15811	102.020	16.130
107.55	0.93700	0.9898	0.74942	107.550	80.600
108.66	0.99650	0.9998	0.00998	108.660	1.084
109.19	0.99980	1.0000	0.00024	109.190	0.026
109.37	1.00000	1.0000	0.00001	109.370	0.001
Total			1.00000		\$ 105.00
					step 411
					\$ 100.00
					step 412

Table 11.
Estimated Probability Distribution for Earthquake Payoff

Column 11A	Column 11B	Column 11C
	step 503	step 503
Richter	Payout	Estimated
Scale	Amount (\$)	Probability
	x	$f(x)$
0-5.9	\$ -	0.80000
6.0	\$ 100.00	0.02000
6.1	\$ 110.52	0.01800
6.2	\$ 122.14	0.01620
6.3	\$ 134.99	0.01458
6.4	\$ 149.18	0.01312
6.5	\$ 164.87	0.01181
6.6	\$ 182.21	0.01063
6.7	\$ 201.38	0.00957
6.8	\$ 222.55	0.00861
6.9	\$ 245.96	0.00775
7+	\$ 271.83	0.06974
Total		1.00000

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Table 12.
Wang Price for the Earthquake Insurance ($\lambda=0.3$)

Column 12A	Column 12B	Column 12C	Column 12D	Column 12E	Column 12F
step 504	step 504	step 505	step 507	step 508	step 509
Payout	Estimated	Cumulative	After Wang	Distorted	Weighted
Amount (\$)	Probability	Probability	Transform	Probability	Payoff (\$)
x	$f(x)$	$F(x)$	$F^*(x)$	$f^*(x)$	$x \cdot f^*(x)$
\$ -	0.80000	0.80000	0.7060	0.7060	\$ -
\$ 100.00	0.02000	0.82000	0.7308	0.0249	\$ 2.49
\$ 110.52	0.01800	0.83800	0.7537	0.0229	\$ 2.53
\$ 122.14	0.01620	0.85420	0.7748	0.0210	\$ 2.57
\$ 134.99	0.01458	0.86878	0.7941	0.0193	\$ 2.61
\$ 149.18	0.01312	0.88190	0.8118	0.0177	\$ 2.64
\$ 164.87	0.01181	0.89371	0.8281	0.0163	\$ 2.68
\$ 182.21	0.01063	0.90434	0.8430	0.0149	\$ 2.72
\$ 201.38	0.00957	0.91391	0.8566	0.0137	\$ 2.75
\$ 222.55	0.00861	0.92252	0.8691	0.0125	\$ 2.78
\$ 245.96	0.00775	0.93026	0.8806	0.0114	\$ 2.81
\$ 271.83	0.06974	1.00000	1.0000	0.1194	\$ 32.47
Total	1.00000			1.00000	\$ 59.05
					step 511
					\$ 55.18
					step 512

Table 13.
Wang Price of the Contingent Payoff on the Earthquake Insurance

Column 12A	Column 12E	Column 13A	Column 13B
step 504	step 508	step 515	step 516
Payout	Distorted	Contingent	Weighted
Amount (\$)	Probability	Payoff (\$)	Payoff (\$)
x	$f^*(x)$	$\max(x-200,0)$	$V(x) \cdot f^*(x)$
\$ -	0.7060	\$ -	\$ -
\$ 100.00	0.0249	\$ -	\$ -
\$ 110.52	0.0229	\$ -	\$ -
\$ 122.14	0.0210	\$ -	\$ -
\$ 134.99	0.0193	\$ -	\$ -
\$ 149.18	0.0177	\$ -	\$ -
\$ 164.87	0.0163	\$ -	\$ -
\$ 182.21	0.0149	\$ -	\$ -
\$ 201.38	0.0137	\$ 1.38	\$ 0.02
\$ 222.55	0.0125	\$ 22.55	\$ 0.28
\$ 245.96	0.0114	\$ 45.96	\$ 0.53
\$ 271.83	0.1194	\$ 71.83	\$ 8.58
Total	1.00000		\$ 9.41
			step 517
			\$ 8.79
			step 518

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Table 14.
A Variation of Table 12, Using Exceedence Probabilities

Column 12A	Column 12B	New Column 12C	New Column 12D	Column 12E	Column 12F
step 504	step 504	step 505_new	step 507_new	step 508_new	step 509
Payout	Estimated	Exceedence	After Wang	Distorted	Weighted
Amount (\$)	Probability	Probability	Transform	Probability	Payoff (\$)
x	$f(x)$	$G(x)$	$G^*(x)$	$f^*(x)$	$x f^*(x)$
\$ -	0.80000	0.20000	0.2940	0.7060	\$ -
\$ 100.00	0.02000	0.18000	0.2692	0.0249	\$ 2.49
\$ 110.52	0.01800	0.16200	0.2463	0.0229	\$ 2.53
\$ 122.14	0.01620	0.14580	0.2252	0.0210	\$ 2.57
\$ 134.99	0.01458	0.13122	0.2059	0.0193	\$ 2.61
\$ 149.18	0.01312	0.11810	0.1882	0.0177	\$ 2.64
\$ 164.87	0.01181	0.10629	0.1719	0.0163	\$ 2.68
\$ 182.21	0.01063	0.09566	0.1570	0.0149	\$ 2.72
\$ 201.38	0.00957	0.08609	0.1434	0.0137	\$ 2.75
\$ 222.55	0.00861	0.07748	0.1309	0.0125	\$ 2.78
\$ 245.96	0.00775	0.06974	0.1194	0.0114	\$ 2.81
\$ 271.83	0.06974	0.00000	0.0000	0.1194	\$ 32.47
Total	1.00000			1.00000	\$ 59.05
					step 511
					\$ 55.18
					step 512

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Replacement Tables

Table 15.
An Insurance Policy Covering the Total Loss of a Satellite Launch ($\Lambda = -0.2$, Degrees of Freedom = 11)

Column 15A	Column 15B	Column 15C	Column 15D	Column 15E	Column 15F
			Steps 601-606		
Loss	Estimated	Cumulative	After Two-Factor	Distorted	Weighted
Amount	Probability	Probability	Wang Transform	Probability	Value
x	$f(x)$	$F(x)$	$F^*(x)$	$f^*(x)$	$x f^*(x)$
\$ -	0.96000	0.96000	0.9254	0.9254	\$ -
\$ 200.00 mil	0.04000	1.00000	1.0000	0.0746	\$ 14.93 mil
Total	1.00000			1.00000	\$ 14.93 mil
					Price

	A	B	C	D	E	F	G	H
1								
2	Table 1.							
3	Unsorted Intel Stock Price Distribution							
4								
5	Column 1A	Column 1B	Column 1C	Column 1D	Column 1E			
6				step 203	step 203			
7	Monthly Index	Monthly Return	Current Price (\$)	Prospective Future Stock Price Outcome	Respective Probability			
8	Jun-00	0.03084	133.69	137.81	0.04167			
9	May-00	0.07014	133.69	143.07	0.04167			
10	Apr-00	-0.08148	133.69	122.80	0.04167			
11	Mar-00	0.13985	133.69	152.39	0.04167			
12	Feb-00	0.14109	133.69	152.55	0.04167			
13	Jan-00	0.23234	133.69	164.75	0.04167			
14	Dec-99	0.07862	133.69	144.20	0.04167			
15	Nov-99	0.00412	133.69	134.24	0.04167			
16	Oct-99	0.01417	133.69	135.58	0.04167			
17	Sep-99	-0.10187	133.69	120.07	0.04167			
18	Aug-99	0.14396	133.69	152.94	0.04167			
19	Jul-99	0.14863	133.69	153.56	0.04167			
20	Jun-99	0.25743	133.69	168.11	0.04167			
21	May-99	-0.18136	133.69	109.44	0.04167			
22	Apr-99	-0.03235	133.69	129.37	0.04167			
23	Mar-99	0.12458	133.69	150.35	0.04167			
24	Feb-99	-0.15784	133.69	112.59	0.04167			
25	Jan-99	0.13549	133.69	151.80	0.04167			
26	Dec-98	0.03097	133.69	137.83	0.04167			
27	Nov-98	0.28941	133.69	172.38	0.04167			
28	Oct-98	0.06891	133.69	142.90	0.04167			
29	Sep-98	0.09787	133.69	146.77	0.04167			
30	Aug-98	-0.1039	133.69	119.80	0.04167			
31	Jul-98	0.15784	133.69	154.79	0.04167			
32	Total							
33								
34	AID TO FINDING SHARPE RATIO							
35	Monthly Basis of ...	step 206						
36	Average Return	0.06281						
37	Standard Deviation	0.12591						
38	Risk Free Rate	0.005833						
39	Sharpe Ratio	0.4525						
40								
41	Now use Sharpe Ratio as Presumptive Lambda for Wang Transform to Determine Wang Price							

Note: Column 1D is rounded to two decimals here, unlike the original Column 1D in original Table 1, which was rounded to three decimals.

NO MATERIAL CHANGE TO EXAMPLE

Note: Column 1D is rounded to two decimals here, unlike the original Column 1D in original Table 1, which was rounded to three decimals.
NO MATERIAL CHANGE TO EXAMPLE

	A	B	C	D	E
1					
2	Table 2.				
3	Sorted Intel Stock Price Distribution				
4					
5	Column 2A	Column 2B	Column 2C	Column 2D	
6		step 204	step 204	step 205	
7	Monthly Index	Prospective Future Stock Price Outcome (\$)	Respective Probability	Cumulative Probability	
8	May-99	109.44	0.04167	0.04167	
9	Feb-99	112.59	0.04167	0.08333	
10	Aug-98	119.80	0.04167	0.12500	
11	Sep-99	120.07	0.04167	0.16667	
12	Apr-00	122.80	0.04167	0.20833	
13	Apr-99	129.37	0.04167	0.25000	
14	Nov-99	134.24	0.04167	0.29167	
15	Oct-99	135.58	0.04167	0.33333	
16	Jun-00	137.81	0.04167	0.37500	
17	Dec-98	137.83	0.04167	0.41667	
18	Oct-98	142.90	0.04167	0.45833	
19	May-00	143.07	0.04167	0.50000	
20	Dec-99	144.20	0.04167	0.54167	
21	Sep-98	146.77	0.04167	0.58333	
22	Mar-99	150.35	0.04167	0.62500	
23	Jan-99	151.80	0.04167	0.66667	
24	Mar-00	152.39	0.04167	0.70833	
25	Feb-00	152.55	0.04167	0.75000	
26	Aug-99	152.94	0.04167	0.79167	
27	Jul-99	153.56	0.04167	0.83333	
28	Jul-98	154.79	0.04167	0.87500	
29	Jan-00	164.75	0.04167	0.91667	
30	Jun-99	168.11	0.04167	0.95833	
31	Nov-98	172.38	0.04167	1.00000	
32	Total		1.00000		
33					
34					
35					
36					
37					

Note: Column 2B is rounded to two decimals here, with different final digits for highlighted numbers when compared to those in the original Table 2.
NO MATERIAL CHANGE TO EXAMPLE

	A	B	C	D	E	F	G
1							
2	Table 3.						
3	Kernel, or Core Process, of the Wang Transform (Lambda=0.4525)						
4							
5	Column 2B	Column 2D	Column 3A	Column 3B	Column 3C		
6	step 102	step 102	step 103	step 104	step 105		
7	Prospective Future Stock Price Outcome (\$)	Cumulative Probability...	...After Applying Normal Inversion	...After Shifting By Adding Lambda	...After Applying Normal Distribution		
8	x	F(x)					
9	109.44	0.04167	-1.7317	-1.2792	0.1004		
10	112.59	0.08333	-1.3830	-0.9305	0.1761		
11	119.80	0.12500	-1.1503	-0.6978	0.2426		
12	120.07	0.16667	-0.9674	-0.5149	0.3033		
13	122.80	0.20833	-0.8122	-0.3597	0.3595		
14	129.37	0.25000	-0.6745	-0.2220	0.4122		
15	134.24	0.29167	-0.5485	-0.0960	0.4618		
16	135.58	0.33333	-0.4307	0.0218	0.5087		
17	137.81	0.37500	-0.3186	0.1339	0.5532		
18	137.83	0.41667	-0.2104	0.2421	0.5956		
19	142.90	0.45833	-0.1046	0.3479	0.6360		
20	143.07	0.50000	0.0000	0.4525	0.6745		
21	144.20	0.54167	0.1046	0.5571	0.7113		
22	146.77	0.58333	0.2104	0.6629	0.7463		
23	150.35	0.62500	0.3186	0.7711	0.7797		
24	151.80	0.66667	0.4307	0.8832	0.8114		
25	152.39	0.70833	0.5485	1.0010	0.8416		
26	152.55	0.75000	0.6745	1.1270	0.8701		
27	152.94	0.79167	0.8122	1.2647	0.8970		
28	153.56	0.83333	0.9674	1.4199	0.9222		
29	154.79	0.87500	1.1503	1.6028	0.9455		
30	164.75	0.91667	1.3830	1.8355	0.9668		
31	168.11	0.95833	1.7317	2.1842	0.9855		
32	172.38	1.00000	500000.0000	500000.4525	1.00000		
33							
34							
35							
36							
37							
38							

Note: Column 3B is rounded to four decimals here,
with different final digits for highlighted numbers
when compared to those in the original Table 3.
NO MATERIAL CHANGE TO EXAMPLE

	A	B	C	D	E	F	G
1							
2	Table 4.						
3	Wang Price of the Future Intel Stock in One Month (Lambda=0.4525)						
4							
5	Column 3B	Column 3C	Column 4A	Column 4B			
6		step 207	step 208	step 209			
7	Prospective Future Stock Price Outcome (\$)	...After Wang Transform	...After Decumulation	...After Multiplication To Each Outcome			
8		Probability	Probability	Weighted Value			
9	x	F*(x)	f*(x)	f*(x).x			
10	109.44	0.1004	0.1004	10.990			
11	112.59	0.1761	0.0756	8.516			
12	119.80	0.2426	0.0666	7.976			
13	120.07	0.3033	0.0607	7.284			
14	122.80	0.3595	0.0562	6.904			
15	129.37	0.4122	0.0526	6.809			
16	134.24	0.4618	0.0496	6.657			
17	135.58	0.5087	0.0469	6.364			
18	137.81	0.5532	0.0446	6.141			
19	137.83	0.5956	0.0424	5.843			
20	142.90	0.6360	0.0404	5.772			
21	143.07	0.6745	0.0385	5.510			
22	144.20	0.7113	0.0367	5.297			
23	146.77	0.7463	0.0350	5.141			
24	150.35	0.7797	0.0334	5.018			
25	151.80	0.8114	0.0318	4.821			
26	152.39	0.8416	0.0301	4.594			
27	152.55	0.8701	0.0285	4.353			
28	152.94	0.8970	0.0269	4.112			
29	153.56	0.9222	0.0252	3.865			
30	154.79	0.9455	0.0233	3.611			
31	164.75	0.9668	0.0213	3.504			
32	168.11	0.9855	0.0187	3.150			
33	172.38	1.0000	0.0145	2.495			
34	Total		1.0000	\$ 134.73			
35				step 210			
36				\$ 133.95			
37				step 211			
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							

Note: Column 4B is rounded to three decimals here, with different final digits for highlighted numbers when compared to those in the original Table 4.

NO MATERIAL CHANGE TO EXAMPLE

Note: Column 4B sum is rounded to two decimals here, with different final digits for highlighted numbers when compared to those digits in the original Table 4.

NO MATERIAL CHANGE TO EXAMPLE

	A	B	C	D	E	F	G
2	Table 5.						
3	Wang Price of a European Call Option on Intel Stock with a Strike Price of 140 (Lambda=0.4685)						
4							
5	Column 2B	Column 2D	Column 5A	Column 5B	Column 5C	Column 5D	Column 5E
6				step 203	step 203	step 204	step 205
7	Prospective Future Stock Price Outcome (\$)	Cumulative Probability	...After Wang Transform	...After Decumulation, Distorted Probability Weight	Weighted Value For Underlying (\$)	Contingent Payoff For Option (\$)	Weighted Value For Option (\$)
8	x	$F(x)$	$F^*(x)$	$f^*(x)$	$x \cdot f^*(x)$	$= \text{MAX}[x-140,0]$	$f^*(x) \cdot V(x)$
9	109.44	0.0417	0.1033	0.1033	11.302	0.00	0.000
10	112.59	0.0833	0.1802	0.0770	8.665	0.00	0.000
11	119.80	0.1250	0.2477	0.0674	8.079	0.00	0.000
12	120.07	0.1667	0.3089	0.0613	7.354	0.00	0.000
13	122.80	0.2083	0.3655	0.0566	6.952	0.00	0.000
14	129.37	0.2500	0.4184	0.0529	6.840	0.00	0.000
15	134.24	0.2917	0.4681	0.0497	6.673	0.00	0.000
16	135.58	0.3333	0.5151	0.0470	6.366	0.00	0.000
17	137.81	0.3750	0.5596	0.0445	6.132	0.00	0.000
18	137.83	0.4167	0.6018	0.0423	5.825	0.00	0.000
19	142.90	0.4583	0.6420	0.0402	5.744	2.90	0.117
20	143.07	0.5000	0.6803	0.0383	5.475	3.07	0.117
21	144.20	0.5417	0.7167	0.0364	5.254	4.20	0.153
22	146.77	0.5833	0.7514	0.0347	5.091	6.77	0.235
23	150.35	0.6250	0.7844	0.0330	4.960	10.35	0.341
24	151.80	0.6667	0.8157	0.0313	4.757	11.80	0.370
25	152.39	0.7083	0.8454	0.0297	4.525	12.39	0.368
26	152.55	0.7500	0.8735	0.0280	4.279	12.55	0.352
27	152.94	0.7917	0.8999	0.0264	4.034	12.94	0.341
28	153.56	0.8333	0.9245	0.0246	3.783	13.56	0.334
29	154.79	0.8750	0.9473	0.0228	3.525	14.79	0.337
30	164.75	0.9167	0.9680	0.0207	3.409	24.75	0.512
31	168.11	0.9583	0.9861	0.0182	3.051	28.11	0.510
32	172.38	1.0000	1.0000	0.0139	2.396	32.38	0.450
33				1.0000	\$ 134.47		\$ 4.54
34					step 310		step 317
35					\$ 133.69		\$ 4.51
36					step 311		step 318
37							
38	Note: Column 5B is rounded to three decimals here, with different final digits for highlighted numbers when compared to those in the original Table 5.						
39	NO MATERIAL CHANGE TO EXAMPLE						
40							
41							
42							
43	Note: Column 5C is rounded to three decimals here, with different final digits for highlighted numbers when compared to those in the original Table 5.						
44	NO MATERIAL CHANGE TO EXAMPLE						
45							
46							

	A	B	C	D	E	F	G
1							
2	Table 6.						
3	Wang Price for the Underlying (Lambda=0.0854)						
4							
5	Column 6A	Column 6B	Column 6C	Column 6D	Column 6E	Column 6F	
6	step 304	step 304	step 305	step 307	step 308	step 309	
7	Sorted	Assigned	Cumulative	After Wang	Distorted	Weighted	
8	Outcome (\$)	Probability	Probability	Transform	Probability	Payoff (\$)	
9	x	$f(x)$	$F(x)$	$F^*(x)$	$f^*(x)$	$f^*(x).x$	
10	\$ (123.00)	0.1	0.1	0.1158	0.1158	\$ (14.25)	
11	\$ (21.00)	0.1	0.2	0.2248	0.1089	\$ (2.29)	
12	\$ (9.00)	0.1	0.3	0.3303	0.1056	\$ (0.95)	
13	\$ 7.00	0.1	0.4	0.4333	0.1030	\$ 0.72	
14	\$ 20.00	0.1	0.5	0.5340	0.1007	\$ 2.01	
15	\$ 20.00	0.1	0.6	0.6326	0.0986	\$ 1.97	
16	\$ 28.00	0.1	0.7	0.7290	0.0964	\$ 2.70	
17	\$ 36.00	0.1	0.8	0.8230	0.0940	\$ 3.39	
18	\$ 50.00	0.1	0.9	0.9142	0.0911	\$ 4.56	
19	\$ 57.00	0.1	1.0	1.0000	0.0858	\$ 4.89	
20	Total	1.0000			1.0000	\$ 2.76	
21						step 311	
22						\$ 2.58	
23						step 312	
24							
25	Table 7.						
26	Wang Price for the Put Option with a Strike Price of 0.00 (Lambda=0.10)						
27							
28	Column 6A	Column 6C	Column 7A	Column 7B	Column 7C	Column 7D	Column 7E
29			step 307	step 308	step 309	step 315	step 316
30	Sorted	Cumulative	Wang	Distorted	Weighted	Contingent	Weighted
31	Outcome (\$)	Probability	Transform	Probability	Value (\$)	Payoff (\$)	Payoff (\$)
32	x	$F(x)$	$F^*(x)$	$f^*(x)$	$f^*(x).x$	$=\max(-x,0)$	$f^*(x).V(x)$
33	\$ (123.00)	0.1	0.1187	0.1187	\$ (14.60)	\$ 123.00	\$ 14.60
34	\$ (21.00)	0.2	0.2292	0.1105	\$ (2.32)	\$ 21.00	\$ 2.32
35	\$ (9.00)	0.3	0.3356	0.1065	\$ (0.96)	\$ 9.00	\$ 0.96
36	\$ 7.00	0.4	0.4391	0.1034	\$ 0.72	\$ -	\$ -
37	\$ 20.00	0.5	0.5398	0.1008	\$ 2.02	\$ -	\$ -
38	\$ 20.00	0.6	0.6381	0.0983	\$ 1.97	\$ -	\$ -
39	\$ 28.00	0.7	0.7338	0.0957	\$ 2.68	\$ -	\$ -
40	\$ 36.00	0.8	0.8268	0.0930	\$ 3.35	\$ -	\$ -
41	\$ 50.00	0.9	0.9164	0.0896	\$ 4.48	\$ -	\$ -
42	\$ 57.00	1	1.0000	0.0836	\$ 4.76	\$ -	\$ -
43	Total			1.0000	\$ 2.10		\$ 17.88
44					step 310		step 317
45					\$ 1.96		\$ 16.71
46					step 311		step 318
47							
48							
49							
50							
51							
52							

Note: Column 6C is rounded to one decimal here, with the zero suppression for highlighted numbers when compared to those in the original Table 7.
NO MATERIAL CHANGE TO EXAMPLE

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1														
2	Table 8.													
3	Rating Migration for a BBB-rated Bond over 1 year													
4														
5	Column 8A	Column 8B	Column 8C	Column 8D	Column 8E									
6				step 403	step 403									
7	Year-end	Coupon	Forward	Total	Estimated									
8	Rating	Rate	Value	Value (\$)	Probability									
9														
10	AAA	6%	103.37	109.37	0.02%									
11	AA	6%	103.1	109.19	0.33%									
12	A	6%	102.66	108.66	5.95%									
13	BBB	6%	101.55	107.55	86.93%									
14	BB	6%	96.02	102.02	5.30%									
15	B	6%	92.1	98.1	1.17%									
16	CCC	6%	77.64	83.64	0.12%									
17	Default	0%	51.13	51.13	0.18%									
18	Total				100.00%									
19														
20														
21	Table 9.													
22	Wang Price of the BBB-bond (Lambda=0.698)(4.75% Discount Rate)													
23														
24	Column 9A	Column 9B	Column 9C	Column 9D	Column 9E	Column 9F	Column 9G							
25	step 404	step 404	step 405	step 407	step 408	step 409	step 410							
26	Total Value	Estimated	Cumulative	After Wang	Distorted	Apply	Weighted							
27	In 1 Year	Probability	Probability	Transform	Probability	Payoff (\$)	Value (\$)							
28														
29	51.13	0.00180	0.00180	0.0134	0.01344	51.13	0.687							
30	83.64	0.00120	0.00300	0.0202	0.00675	83.64	0.565							
31	98.1	0.01170	0.01470	0.0694	0.04923	98.10	4.830							
32	102.02	0.05300	0.06770	0.2133	0.14384	102.02	14.675							
33	107.55	0.86930	0.93700	0.9871	0.77380	107.55	83.222							
34	108.66	0.05950	0.99650	0.9997	0.01259	108.66	1.369							
35	109.19	0.00330	0.99980	1.0000	0.00033	109.19	0.036							
36	109.37	0.00020	1.00000	1.0000	0.00001	109.37	0.001							
37	Total	1.00000			1.00000		\$ 105.38							
38							step 411							
39							\$ 100.37							
40							step 412							
41														
42														
43	AID TO FINDING SHARPE RATIO													
44	Monthly Basis of ...	step 206												
45	Average Return	0.07088												
46	Standard Deviation	0.02992												
47	Risk Free Rate	0.05												
48	Sharpe Ratio	0.6979												
49														
50	Now use Sharpe Ratio as Presumptive Lambda for Wang Transform to Determine Wang Price													
51														

Special

step 206	Special
Mean Return	step 206
on Bond	STDEV
	on Bond
	11961.8
	11922.46
	11807
	11567
	10408.08
	9623.61
	6995.65
	2614.28
	11,476.77
	7.09%
	107.09
	2.99%
	5.00%

Note: Column 8E is rounded to two decimals here, in contrast to the three decimals displayed in the original Table 8.
NO MATERIAL CHANGE TO EXAMPLE

step 206
105.38
100.37

step 411

step 412

Note: Highlighted decimalized number in Column 9G is slightly different when compared to the original in the original Table 8.
NO MATERIAL CHANGE TO EXAMPLE

	A	B	C	D	E	F	G	H	I
1									
2	Table 10.								
3	Estimation of True Market Price of Risk (Lambda=0.788)								
4									
5	Column 9A	Column 9B	Column 9C	Column 10A	Column 10B	Column 10C	Column 10D		
6	step 404	step 404	step 405	step 407	step 408	step 409	step 410		
7	Total Value	Estimated	Cumulative	After Wang	Distorted	Apply	Weighted		
8	In 1 Year	Probability	Probability	Transform	Probability	Payoff (\$)	Value (\$)		
9									
10	51.13	0.00180	0.00180	0.0169	0.01687	51.13	0.862		
11	83.64	0.00120	0.00300	0.0250	0.00814	83.64	0.681		
12	98.1	0.01170	0.01470	0.0823	0.05724	98.10	5.615		
13	102.02	0.05300	0.06770	0.2404	0.15811	102.02	16.130		
14	107.55	0.86930	0.93700	0.9898	0.74942	107.55	80.600		
15	108.66	0.05950	0.99650	0.9998	0.00998	108.66	1.084		
16	109.19	0.00330	0.99980	1.0000	0.00024	109.19	0.026		
17	109.37	0.00020	1.00000	1.0000	0.00001	109.37	0.001		
18	Total	1.00000			1.00000		\$ 105.00		
19							step 411		
20							\$ 100.00		
21							step 412		
22									
23									
24	Table 11.								
25	Estimated Probability Distribution for Earthquake Payoff								
26									
27	Column 11A	Column 11B	Column 11C						
28	step 503		step 503						
29	Richter	Payout	Estimated						
30	Scale	Amount (\$)	Probability						
31									
32	0-5.9	-	0.80000						
33	6	\$ 100.00	0.02000						
34	6.1	\$ 110.52	0.01800						
35	6.2	\$ 122.14	0.01620						
36	6.3	\$ 134.99	0.01458						
37	6.4	\$ 149.18	0.01312						
38	6.5	\$ 164.87	0.01181						
39	6.6	\$ 182.21	0.01063						
40	6.7	\$ 201.38	0.00957						
41	6.8	\$ 222.55	0.00861						
42	6.9	\$ 245.96	0.00775						
43	7+	\$ 271.83	0.06974						
44	Total		1.00001						
45									
46									
47									
48									
49									

Note: Column 9B not included in original example of Table 10, but is included here only to facilitate additional understanding of estimated probabilities that would lead to Column 9C.

NO MATERIAL CHANGE TO EXAMPLE

Note: Column 11C has sum of estimated probabilities that here adds to a number slightly over one, in contrast to the sum of exactly one provided in the original table.

NO MATERIAL CHANGE TO EXAMPLE

	A	B	C	D	E	F	G	H	I	J
1										
2	Table 12.									
3	Wang Price for the Earthquake Insurance (Lambda=-0.3)									
4										
5	Column 12A	Column 12B	Column 12C	Column 12D	Column 12E	Column 12F				
6	step 504	step 504	step 505	step 507	step 508	step 509				
7	Payout	Estimated	Cumulative	After Wang	Distorted	Weighted				
8	Amount (\$)	Probability	Probability	Transform	Probability	Payoff (\$)				
9										
10	\$ -	0.8000	0.8000	0.7060	0.7060	\$ -				
11	\$ 100.00	0.0200	0.8200	0.7308	0.0249	\$ 2.49				
12	\$ 110.52	0.0180	0.8380	0.7537	0.0229	\$ 2.53				
13	\$ 122.14	0.0162	0.8542	0.7748	0.0210	\$ 2.57				
14	\$ 134.99	0.0146	0.8688	0.7941	0.0193	\$ 2.61				
15	\$ 149.18	0.0131	0.8819	0.8118	0.0177	\$ 2.64				
16	\$ 164.87	0.0118	0.8937	0.8281	0.0163	\$ 2.68				
17	\$ 182.21	0.0106	0.9043	0.8430	0.0149	\$ 2.72				
18	\$ 201.38	0.0096	0.9139	0.8566	0.0137	\$ 2.75				
19	\$ 222.55	0.0086	0.9225	0.8691	0.0125	\$ 2.78				
20	\$ 245.96	0.0078	0.9303	0.8806	0.0114	\$ 2.82				
21	\$ 271.83	0.0697	1.0000	1.0000	0.1194	\$ 32.47				
22	Total	1.00000			1.00000	\$ 59.05				
23							step 511			
24							\$ 55.19			
25							step 512			

Note: Highlighted number in Column 12F slightly different from the original number found in original Table 12.
NO MATERIAL CHANGE TO EXAMPLE

31	Column 12A	Column 12E	Column 13A	Column 13B
32	step 504	step 508	step 515	step 516
33	Payout	Distorted	Contingent	Weighted
34	Amount (\$)	Probability	Payoff (\$)	Payoff (\$)
35				
36	\$ -	0.7060	0.00	\$ -
37	\$ 100.00	0.0249	0.00	\$ -
38	\$ 110.52	0.0229	0.00	\$ -
39	\$ 122.14	0.0210	0.00	\$ -
40	\$ 134.99	0.0193	0.00	\$ -
41	\$ 149.18	0.0177	0.00	\$ -
42	\$ 164.87	0.0163	0.00	\$ -
43	\$ 182.21	0.0149	0.00	\$ -
44	\$ 201.38	0.0137	1.38	\$ 0.02
45	\$ 222.55	0.0125	22.55	\$ 0.28
46	\$ 245.96	0.0114	45.96	\$ 0.53
47	\$ 271.83	0.1194	71.83	\$ 8.58
48	Total			\$ 9.41
49	step 517			
50	\$ 8.79			
51	step 518			

Note: Sum of Column 12F slightly different from original number found in the original Table 12.
NO MATERIAL CHANGE TO EXAMPLE

	A	B	C	D	E	F
1						
2	Table 14.					
3	A Variation of Table 12, Using Exceedence Probabilities					
4						
5	Column 12A	Column 12B	New Column 12C	New Column 12D	Column 12E	Column 12F
6	step 504	step 504	step 505_new	step 507_new	step 508_new	step 509
7	Payout	Estimated	Exceedence	After Wang	Distorted	Weighted
8	Amount (\$)	Probability	Probability	Transform	Probability	Payout (\$)
9						
10	-	0.80000	0.2000	0.2940	0.7060	-
11	100.00	0.02000	0.1800	0.2692	0.0249	2.49
12	110.52	0.01800	0.1620	0.2463	0.0229	2.53
13	122.14	0.01620	0.1458	0.2252	0.0210	2.57
14	134.99	0.01458	0.1312	0.2059	0.0193	2.61
15	149.18	0.01312	0.1181	0.1882	0.0177	2.64
16	164.87	0.01181	0.1063	0.1719	0.0163	2.68
17	182.21	0.01063	0.0957	0.1570	0.0149	2.72
18	201.38	0.00957	0.0861	0.1434	0.0137	2.75
19	222.55	0.00861	0.0775	0.1309	0.0125	2.78
20	245.96	0.00775	0.0697	0.1194	0.0114	2.82
21	271.83	0.06974	0.0000	0.0000	0.1194	32.47
22	Total	1.00000			1.0000	\$ 59.05
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						

Note: Highlighted number in Column 12F slightly different from the original number found in original Table 12 and original Table 14.

NO MATERIAL CHANGE TO EXAMPLE

Note: Sum of Column 12F slightly different from original number found in the original Table 12. same as this Table 12.

NO MATERIAL CHANGE TO EXAMPLE

step 511	
\$	55.18
step 512	

	A	B	C	D	E	F
1						
2	Table 15.					
3	An Insurance Policy Covering the Total Loss of a Satellite Launch (Lambda=0.2, Degrees of Freedom=11)					
4						
5	Column 15A	Column 15B	Column 15C	Column 15D	Column 15E	Column 15F
6				steps 601-606		
7	Loss	Estimated	Cumulative	After Two-Factor	Distorted	Weighted
8	Amount (\$)	Probability	Probability	Wang Transform	Probability	Value (\$)
9	x	f(x)	F(x)	F*(x)	f*(x)	x f*(x)
10	0	0.96000	0.96000	0.9254	0.9254	0
11	\$ 200,000,000	0.04000	1.00000	1.0000	0.0746	\$ 14,925,375
12	Total	1.00000				
13						
14						
15	Note: Highlighted number in Column 15A expressed in original Table 15 as "\$200.00 mil" NO MATERIAL CHANGE TO EXAMPLE					
16						
17						
18						
19						
20	Note: Highlighted number in Column 15F expressed in original Table 15 as "\$14.93 mil" NO MATERIAL CHANGE TO EXAMPLE					
21						
22						

	A	B	C	D	E
1					
2	Table 1.				
3	Unsorted Intel Stock Price Distribution				
4					
5	Column 1A	Column 1B	Column 1C	Column 1D	Column 1E
6				step 203	
7	Monthly Index	Monthly Return	Current Price (\$)	Prospective Future Stock Price Outcome	Respective Probability
8	36678	0.03084	133.69	= (B8*C8)+C8	=1/(COUNT(\$B\$8:\$B\$31))
9	36647	0.07014	133.69	= (B9*C9)+C9	=1/(COUNT(\$B\$8:\$B\$31))
10	36617	-0.08148	133.69	= (B10*C10)+C10	=1/(COUNT(\$B\$8:\$B\$31))
11	36586	0.13985	133.69	= (B11*C11)+C11	=1/(COUNT(\$B\$8:\$B\$31))
12	36557	0.14109	133.69	= (B12*C12)+C12	=1/(COUNT(\$B\$8:\$B\$31))
13	36526	0.23234	133.69	= (B13*C13)+C13	=1/(COUNT(\$B\$8:\$B\$31))
14	36495	0.07862	133.69	= (B14*C14)+C14	=1/(COUNT(\$B\$8:\$B\$31))
15	36465	0.00412	133.69	= (B15*C15)+C15	=1/(COUNT(\$B\$8:\$B\$31))
16	36434	0.01417	133.69	= (B16*C16)+C16	=1/(COUNT(\$B\$8:\$B\$31))
17	36404	-0.10187	133.69	= (B17*C17)+C17	=1/(COUNT(\$B\$8:\$B\$31))
18	36373	0.14396	133.69	= (B18*C18)+C18	=1/(COUNT(\$B\$8:\$B\$31))
19	36342	0.14863	133.69	= (B19*C19)+C19	=1/(COUNT(\$B\$8:\$B\$31))
20	36312	0.25743	133.69	= (B20*C20)+C20	=1/(COUNT(\$B\$8:\$B\$31))
21	36281	-0.18136	133.69	= (B21*C21)+C21	=1/(COUNT(\$B\$8:\$B\$31))
22	36251	-0.03235	133.69	= (B22*C22)+C22	=1/(COUNT(\$B\$8:\$B\$31))
23	36220	0.12458	133.69	= (B23*C23)+C23	=1/(COUNT(\$B\$8:\$B\$31))
24	36192	-0.15784	133.69	= (B24*C24)+C24	=1/(COUNT(\$B\$8:\$B\$31))
25	36161	0.13549	133.69	= (B25*C25)+C25	=1/(COUNT(\$B\$8:\$B\$31))
26	36130	0.03097	133.69	= (B26*C26)+C26	=1/(COUNT(\$B\$8:\$B\$31))
27	36100	0.28941	133.69	= (B27*C27)+C27	=1/(COUNT(\$B\$8:\$B\$31))
28	36069	0.06891	133.69	= (B28*C28)+C28	=1/(COUNT(\$B\$8:\$B\$31))
29	36039	0.09787	133.69	= (B29*C29)+C29	=1/(COUNT(\$B\$8:\$B\$31))
30	36008	-0.1039	133.69	= (B30*C30)+C30	=1/(COUNT(\$B\$8:\$B\$31))
31	35977	0.15784	133.69	= (B31*C31)+C31	=1/(COUNT(\$B\$8:\$B\$31))
32	Total				
33					
34	AID TO FINDING SHARPE RATIO				
35	Monthly Basis of ...	step 206			
36	Average Return	= (H19-100)/100			
37	Standard Deviation	= SQRT((H18-(H19*H19))/100			
38	Risk Free Rate	= 5%			
39	Sharpe Ratio	= (B44-B46)/B45			
40					
41	Now use Sharpe Ratio as Presumptive Lambda for Wang Transform to Determine Wang Price				

	A	B	C	D
1				
2	Table 2.			
3	Sorted Intel Stock Price Distribution			
4				
5	Column 2A	Column 2B	Column 2C	Column 2D
6		step 204	step 204	step 205
7	Monthly Index	Prospective Future Stock Price Outcome (\$)	Respective Probability	Cumulative Probability
8	36281	109.4439816	0.0416666666666667	=C8
9	36192	112.5883704	0.0416666666666667	=C9+D8
10	36008	119.799609	0.0416666666666667	=C10+D9
11	36404	120.0709997	0.0416666666666667	=C11+D10
12	36617	122.7969388	0.0416666666666667	=C12+D11
13	36251	129.3651285	0.0416666666666667	=C13+D12
14	36465	134.2408028	0.0416666666666667	=C14+D13
15	36434	135.5843873	0.0416666666666667	=C15+D14
16	36678	137.8129996	0.0416666666666667	=C16+D15
17	36130	137.8303793	0.0416666666666667	=C17+D16
18	36069	142.9025779	0.0416666666666667	=C18+D17
19	36647	143.0670166	0.0416666666666667	=C19+D18
20	36495	144.2007078	0.0416666666666667	=C20+D19
21	36039	146.7742403	0.0416666666666667	=C21+D20
22	36220	150.3451002	0.0416666666666667	=C22+D21
23	36161	151.8036581	0.0416666666666667	=C23+D22
24	36586	152.3865465	0.0416666666666667	=C24+D23
25	36557	152.5523221	0.0416666666666667	=C25+D24
26	36373	152.9360124	0.0416666666666667	=C26+D25
27	36342	153.5603447	0.0416666666666667	=C27+D26
28	35977	154.7916296	0.0416666666666667	=C28+D27
29	36526	164.7515346	0.0416666666666667	=C29+D28
30	36312	168.1058167	0.0416666666666667	=C30+D29
31	36100	172.3812229	0.0416666666666667	=C31+D30
32	Total		=SUM(C8:C31)	

	A	B	C	D	E
1.					
2.					
3.	Table 3.				
4.	Kernel, or Core Process, of the Wang Transform (Lambda=0.4525)				
5.	Column 2B	Column 2D	Column 3A	Column 3B	Column 3C
6.	step 102	step 102	step 103	step 104	step 105
7.	Prospective Future Stock Price Outcome (\$)	Cumulative Probability...	...After Applying Normal Inversion	...After Shifting By Adding Lambda	...After Applying Normal Distribution
8.	x	F(x)			
9.	109.4439816	0.0416666666666667	=NORMSINV(B9)	=C9+0.4525	=NORMSDIST(D9)
10.	112.5883704	0.0833333333333333	=NORMSINV(B10)	=C10+0.4525	=NORMSDIST(D10)
11.	119.799609	0.125	=NORMSINV(B11)	=C11+0.4525	=NORMSDIST(D11)
12.	120.0709997	0.166666666666667	=NORMSINV(B12)	=C12+0.4525	=NORMSDIST(D12)
13.	122.7969388	0.2083333333333333	=NORMSINV(B13)	=C13+0.4525	=NORMSDIST(D13)
14.	129.3651285	0.25	=NORMSINV(B14)	=C14+0.4525	=NORMSDIST(D14)
15.	134.2408028	0.291666666666667	=NORMSINV(B15)	=C15+0.4525	=NORMSDIST(D15)
16.	135.5843873	0.3333333333333333	=NORMSINV(B16)	=C16+0.4525	=NORMSDIST(D16)
17.	137.8129996	0.375	=NORMSINV(B17)	=C17+0.4525	=NORMSDIST(D17)
18.	137.8303793	0.416666666666667	=NORMSINV(B18)	=C18+0.4525	=NORMSDIST(D18)
19.	142.9025779	0.4583333333333333	=NORMSINV(B19)	=C19+0.4525	=NORMSDIST(D19)
20.	143.0670166	0.5	=NORMSINV(B20)	=C20+0.4525	=NORMSDIST(D20)
21.	144.2007078	0.541666666666667	=NORMSINV(B21)	=C21+0.4525	=NORMSDIST(D21)
22.	146.7742403	0.5833333333333333	=NORMSINV(B22)	=C22+0.4525	=NORMSDIST(D22)
23.	150.3451002	0.625	=NORMSINV(B23)	=C23+0.4525	=NORMSDIST(D23)
24.	151.8036581	0.666666666666667	=NORMSINV(B24)	=C24+0.4525	=NORMSDIST(D24)
25.	152.3865465	0.7083333333333333	=NORMSINV(B25)	=C25+0.4525	=NORMSDIST(D25)
26.	152.5523221	0.75	=NORMSINV(B26)	=C26+0.4525	=NORMSDIST(D26)
27.	152.9360124	0.791666666666667	=NORMSINV(B27)	=C27+0.4525	=NORMSDIST(D27)
28.	153.5603447	0.8333333333333333	=NORMSINV(B28)	=C28+0.4525	=NORMSDIST(D28)
29.	154.7916296	0.875	=NORMSINV(B29)	=C29+0.4525	=NORMSDIST(D29)
30.	164.7515346	0.916666666666667	=NORMSINV(B30)	=C30+0.4525	=NORMSDIST(D30)
31.	168.1058167	0.9583333333333333	=NORMSINV(B31)	=C31+0.4525	=NORMSDIST(D31)
32.	172.3812229	1	500000	=C32+0.4525	=NORMSDIST(D32)
33.					
34.	Note: NORMINV and NORMDIST are replaced here with NORMSINV and NORMSDIST.				
35.	NO MATERIAL CHANGE TO EXAMPLE.				

	A	B	C	D
1				
2	Table 4.			
3	Wang Price of the Future Intel Stock in One Month (Lambda=0.4525)			
4				
5	Column 3B	Column 3C	Column 4A	Column 4B
6		step 207	step 208	step 209
7	Prospective Future Stock Price Outcome (\$)	...After Wang Transform	...After Decumulation	...After Multiplication To Each Outcome
8		Transformed Probability	Distorted Probability	Weighted Value
9	π	$P^*(\pi)$	$f^*(\pi)$	$f^*(\pi) \cdot \pi$
10	109.4439816	0.100419585340883	=B10	=C10*A10
11	112.5883704	0.176057651744031	=B11-B10	=C11*A11
12	119.799609	0.242635696874405	=B12-B11	=C12*A12
13	120.0709997	0.303303914999241	=B13-B12	=C13*A13
14	122.7969388	0.359529089152606	=B14-B13	=C14*A14
15	129.3651285	0.41216093121862	=B15-B14	=C15*A15
16	134.2408028	0.461751437649545	=B16-B15	=C16*A16
17	135.5843873	0.508685364647244	=B17-B16	=C17*A17
18	137.8129996	0.553243611016773	=B18-B17	=C18*A18
19	137.8303793	0.595637660349088	=B19-B18	=C19*A19
20	142.9025779	0.636029794191749	=B20-B19	=C20*A20
21	143.0670166	0.674545589379182	=B21-B20	=C21*A21
22	144.2007078	0.711281874508838	=B22-B21	=C22*A22
23	146.7742403	0.746311792273164	=B23-B22	=C23*A23
24	150.3451002	0.779687834769034	=B24-B23	=C24*A24
25	151.8036581	0.811443262672547	=B25-B24	=C25*A25
26	152.3865465	0.841591982116493	=B26-B25	=C26*A26
27	152.5523221	0.870126592686168	=B27-B26	=C27*A27
28	152.9360124	0.897013746862416	=B28-B27	=C28*A28
29	153.5603447	0.92218474167547	=B29-B28	=C29*A29
30	154.7916296	0.945516044167241	=B30-B29	=C30*A30
31	164.7515346	0.966783745761612	=B31-B30	=C31*A31
32	168.1058167	0.985524914936024	=B32-B31	=C32*A32
33	172.3812229	1	=B33-B32	=C33*A33
34	Total		=SUM(C10:C33)	=SUM(D10:D33)
35				step 210
36				=D34/(1+7%/12)
37				step 211

	A	B	C	D	E	F	G
1							
2	Table 5.						
3	Wang Price of a European Call Option on Intel Stock with a Strike Price of 140 (Lambda=0.4685)						
4							
5	Column 2B	Column 2D	Column 5A	Column 5B	Column 5C	Column 5D	Column 5E
6				step 203	step 203	step 204	step 205
	Prospective Future Stock Price Outcome (\$)	Cumulative Probability	...After Wang Transform	...After Decumulation, Distorted Probability Weight	Weighted Value For Underlying (\$)	Contingent Payoff For Option (\$)	Weighted Value For Option (\$)
7							
8	x	F(x)	F*(x)	f*(x)	x*f*(x)	= MAX(x-140,0)	f*(x)*V(x)
9	109.4439816	0.041666666666667	=NORMSDIST((NORMSINV(B9)+0.4685))	=C9	=D9*A9	=MAX(A9-140,0)	=F9*D9
10	112.5883704	0.083333333333333	=NORMSDIST((NORMSINV(B10)+0.4685))	=C10-C9	=D10*A10	=MAX(A10-140,0)	=F10*D10
11	119.799609	0.125	=NORMSDIST((NORMSINV(B11)+0.4685))	=C11-C10	=D11*A11	=MAX(A11-140,0)	=F11*D11
12	120.0709997	0.166666666666667	=NORMSDIST((NORMSINV(B12)+0.4685))	=C12-C11	=D12*A12	=MAX(A12-140,0)	=F12*D12
13	122.7969388	0.208333333333333	=NORMSDIST((NORMSINV(B13)+0.4685))	=C13-C12	=D13*A13	=MAX(A13-140,0)	=F13*D13
14	129.3651285	0.25	=NORMSDIST((NORMSINV(B14)+0.4685))	=C14-C13	=D14*A14	=MAX(A14-140,0)	=F14*D14
15	134.2408028	0.291666666666667	=NORMSDIST((NORMSINV(B15)+0.4685))	=C15-C14	=D15*A15	=MAX(A15-140,0)	=F15*D15
16	135.5843873	0.333333333333333	=NORMSDIST((NORMSINV(B16)+0.4685))	=C16-C15	=D16*A16	=MAX(A16-140,0)	=F16*D16
17	137.8129996	0.375	=NORMSDIST((NORMSINV(B17)+0.4685))	=C17-C16	=D17*A17	=MAX(A17-140,0)	=F17*D17
18	137.8303793	0.416666666666667	=NORMSDIST((NORMSINV(B18)+0.4685))	=C18-C17	=D18*A18	=MAX(A18-140,0)	=F18*D18
19	142.9025779	0.458333333333333	=NORMSDIST((NORMSINV(B19)+0.4685))	=C19-C18	=D19*A19	=MAX(A19-140,0)	=F19*D19
20	143.0670166	0.5	=NORMSDIST((NORMSINV(B20)+0.4685))	=C20-C19	=D20*A20	=MAX(A20-140,0)	=F20*D20
21	144.2007078	0.541666666666667	=NORMSDIST((NORMSINV(B21)+0.4685))	=C21-C20	=D21*A21	=MAX(A21-140,0)	=F21*D21
22	146.7742403	0.583333333333333	=NORMSDIST((NORMSINV(B22)+0.4685))	=C22-C21	=D22*A22	=MAX(A22-140,0)	=F22*D22
23	150.3451002	0.625	=NORMSDIST((NORMSINV(B23)+0.4685))	=C23-C22	=D23*A23	=MAX(A23-140,0)	=F23*D23
24	151.8036581	0.666666666666667	=NORMSDIST((NORMSINV(B24)+0.4685))	=C24-C23	=D24*A24	=MAX(A24-140,0)	=F24*D24
25	152.3865465	0.708333333333333	=NORMSDIST((NORMSINV(B25)+0.4685))	=C25-C24	=D25*A25	=MAX(A25-140,0)	=F25*D25
26	152.5523221	0.75	=NORMSDIST((NORMSINV(B26)+0.4685))	=C26-C25	=D26*A26	=MAX(A26-140,0)	=F26*D26
27	152.9360124	0.791666666666666	=NORMSDIST((NORMSINV(B27)+0.4685))	=C27-C26	=D27*A27	=MAX(A27-140,0)	=F27*D27
28	153.5603447	0.833333333333333	=NORMSDIST((NORMSINV(B28)+0.4685))	=C28-C27	=D28*A28	=MAX(A28-140,0)	=F28*D28
29	154.7916296	0.875	=NORMSDIST((NORMSINV(B29)+0.4685))	=C29-C28	=D29*A29	=MAX(A29-140,0)	=F29*D29
30	164.7515346	0.916666666666666	=NORMSDIST((NORMSINV(B30)+0.4685))	=C30-C29	=D30*A30	=MAX(A30-140,0)	=F30*D30
31	168.1058167	0.958333333333333	=NORMSDIST((NORMSINV(B31)+0.4685))	=C31-C30	=D31*A31	=MAX(A31-140,0)	=F31*D31
32	172.3812229	1	=NORMSDIST((NORMSINV(B32)+0.4685))	=C32-C31	=D32*A32	=MAX(A32-140,0)	=F32*D32
33				=SUM(D9:D32)	=SUM(E9:E32)		=SUM(G9:G32)
34					step 310		step 317
35					=E33/(1+7%/12)		=G33/(1+7%/12)
36					step 311		step 318
37							
38	Note: NORMINV and NORMDIST are replaced here with NORMSINV and NORMSDIST.						
39	NO MATERIAL CHANGE TO EXAMPLE.						

	A	B	C	D	E	F	G
1							
2	Table 6.						
3	Wang Price for the Underlying (Lambda=0.0854)						
4							
5	Column 6A	Column 6B	Column 6C	Column 6D	Column 6E	Column 6F	
6	step 304	step 304	step 305	step 307	step 308	step 309	
7	Sorted	Assigned	Cumulative	After Wang	Distorted	Weighted	
8	Outcome (\$)	Probability	Probability	Transform	Probability	Payoff (\$)	
9	x	f(x)	F(x)	F*(x)	f*(x)	f*(x).x	
10	-123	=0.1	=B10	=NORMSDIST((NORMSINV(C10)+0.0854))	=D10	=A10*E10	
11	-21	=0.1	=B11+C10	=NORMSDIST((NORMSINV(C11)+0.0854))	=D11-D10	=A11*E11	
12	-9	=0.1	=B12+C11	=NORMSDIST((NORMSINV(C12)+0.0854))	=D12-D11	=A12*E12	
13	7	=0.1	=B13+C12	=NORMSDIST((NORMSINV(C13)+0.0854))	=D13-D12	=A13*E13	
14	20	=0.1	=B14+C13	=NORMSDIST((NORMSINV(C14)+0.0854))	=D14-D13	=A14*E14	
15	20	=0.1	=B15+C14	=NORMSDIST((NORMSINV(C15)+0.0854))	=D15-D14	=A15*E15	
16	28	=0.1	=B16+C15	=NORMSDIST((NORMSINV(C16)+0.0854))	=D16-D15	=A16*E16	
17	36	=0.1	=B17+C16	=NORMSDIST((NORMSINV(C17)+0.0854))	=D17-D16	=A17*E17	
18	50	=0.1	=B18+C17	=NORMSDIST((NORMSINV(C18)+0.0854))	=D18-D17	=A18*E18	
19	57	=0.1	=B19+C18	=NORMSDIST((NORMSINV(C19)+0.0854))	=D19-D18	=A19*E19	
20	Total	=SUM(B10:B19)			=SUM(E10:E19)	=SUM(F10:F19)	
21						step 311	
22						=F20/(1+7%)	
23						step 312	
24							
25	Table 7.						
26	Wang Price for the Put Option with a Strike Price of 0.00 (Lambda=0.10)						
27							
28	Column 6A	Column 6C	Column 7A	Column 7B	Column 7C	Column 7D	Column 7E
29			step 307	step 308	step 309	step 315	step 316
30	Sorted	Cumulative	Wang	Distorted	Weighted	Contingent	Weighted
31	Outcome (\$)	Probability	Transform	Probability	Value (\$)	Payoff (\$)	Payoff (\$)
32	x	F(x)	F*(x)	f*(x)	f*(x).x	=max(-x,0)	f*(x).V(x)
33	-123	0.1	=NORMSDIST((NORMSINV(B33)+0.1))	=C33	=D33*A33	=MAX(-A33,0)	=F33*D33
34	-21	0.2	=NORMSDIST((NORMSINV(B34)+0.1))	=C34-C33	=D34*A34	=MAX(-A34,0)	=F34*D34
35	-9	0.3	=NORMSDIST((NORMSINV(B35)+0.1))	=C35-C34	=D35*A35	=MAX(-A35,0)	=F35*D35
36	7	0.4	=NORMSDIST((NORMSINV(B36)+0.1))	=C36-C35	=D36*A36	=MAX(-A36,0)	=F36*D36
37	20	0.5	=NORMSDIST((NORMSINV(B37)+0.1))	=C37-C36	=D37*A37	=MAX(-A37,0)	=F37*D37
38	20	0.6	=NORMSDIST((NORMSINV(B38)+0.1))	=C38-C37	=D38*A38	=MAX(-A38,0)	=F38*D38
39	28	0.7	=NORMSDIST((NORMSINV(B39)+0.1))	=C39-C38	=D39*A39	=MAX(-A39,0)	=F39*D39
40	36	0.8	=NORMSDIST((NORMSINV(B40)+0.1))	=C40-C39	=D40*A40	=MAX(-A40,0)	=F40*D40
41	50	0.9	=NORMSDIST((NORMSINV(B41)+0.1))	=C41-C40	=D41*A41	=MAX(-A41,0)	=F41*D41
42	57	1	=NORMSDIST((NORMSINV(B42)+0.1))	=C42-C41	=D42*A42	=MAX(-A42,0)	=F42*D42
43	Total			=SUM(D33:D42)	=SUM(E33:E42)		=SUM(G33:G42)
44					step 310		step 317
45					=E43/(1+7%)		=G43/(1+7%)
46					step 311		step 318
47							
48	Note: NORMINV and NORMDIST are replaced here with NORMSINV and NORMSDIST.						
49	NO MATERIAL CHANGE TO EXAMPLE.						

	A	B	C	D	E	F	G	H
1								
2	Table 8.							
3	Rating Migration for a BBB-rated Bond over 1 year							
4								
5	Column 8A	Column 8B	Column 8C	Column 8D	Column 8E			
6				step 403	step 403			
7	Year-end	Coupon	Forward	Total	Estimated			
8	Rating	Rate	Value	Value (\$)	Probability			
9								
10	AAA	0.06	103.37	109.37	0.0002			=D10*D10
11	AA	0.06	103.1	109.19	0.0033			=D11*D11
12	A	0.06	102.66	108.66	0.0595			=D12*D12
13	BBB	0.06	101.55	107.55	0.8693			=D13*D13
14	BB	0.06	96.02	102.02	0.053			=D14*D14
15	B	0.06	92.1	98.1	0.0117			=D15*D15
16	CCC	0.06	77.64	83.64	0.0012			=D16*D16
17	Default	0	51.13	51.13	0.0018			=D17*D17
18	Total				=SUM(E10:E17)			=SUM(G10:G17)
19								=SUMPRODUCT(H10:H17,E10:E17)
20								=(G18-100)/100
21								=SQRT(H18-(H19*H19))/100
22	Table 9.							
23	Wang Price of the BBB-bond (Lambda=0.698)(4.75% Discount Rate)							
24	Column 9A	Column 9B	Column 9C	Column 9D	Column 9E	Column 9F	Column 9G	
25	step 404	step 404	step 405	step 407	step 408	step 409	step 410	
26	Total Value	Estimated	Cumulative	After Wang	Distorted	Apply	Weighted	
27	In 1 Year	Probability	Probability	Transform	Probability	Payoff (\$)	Value (\$)	
28								
29	51.13	0.0018	=B29	=NORMSDIST((NORMSINV(C29)+0.698))	=D29	=A29	=E29*F29	
30	83.64	0.0012	=B30+C29	=NORMSDIST((NORMSINV(C30)+0.698))	=D30-D29	=A30	=E30*F30	
31	98.1	0.0117	=B31+C30	=NORMSDIST((NORMSINV(C31)+0.698))	=D31-D30	=A31	=E31*F31	
32	102.02	0.053	=B32+C31	=NORMSDIST((NORMSINV(C32)+0.698))	=D32-D31	=A32	=E32*F32	
33	107.55	0.8693	=B33+C32	=NORMSDIST((NORMSINV(C33)+0.698))	=D33-D32	=A33	=E33*F33	
34	108.66	0.0595	=B34+C33	=NORMSDIST((NORMSINV(C34)+0.698))	=D34-D33	=A34	=E34*F34	
35	109.19	0.0033	=B35+C34	=NORMSDIST((NORMSINV(C35)+0.698))	=D35-D34	=A35	=E35*F35	
36	109.37	0.0002	=B36+C35	=NORMSDIST((NORMSINV(C36)+0.698))	=D36-D35	=A36	=E36*F36	
37	Total	=SUM(B29:B36)			=SUM(E29:E36)		=SUM(G29:G36)	
38							step 411	
39							=G37/(1+5%)	
40							step 412	
41								
42	AID TO FINDING SHARPE RATIO							
43	Monthly Basis of ...	step 206						
44	Average Return	=(H19-100)/100						
45	Standard Deviation	=SQRT(H18-(H19*H19))/100						
46	Risk Free Rate	=5%						
47	Sharpe Ratio	=(B44-B46)/B45						
48								
49								
50	Now use Sharpe Ratio as Presumptive Lambda for Wang Transform to Determine Wang Price							

	A	B	C	D	E	F	G
1							
2	Table 10.						
3	Estimation of True Market Price of Risk (Lambda=0.788)						
4							
5	Column 9A	Column 9B	Column 9C	Column 10A	Column 10B	Column 10C	Column 10D
6	step 404	step 404	step 405	step 407	step 408	step 409	step 410
7	Total Value	Estimated	Cumulative	After Wang	Distorted	Apply	Weighted
8	In 1 Year	Probability	Probability	Transform	Probability	Payoff (\$)	Value (\$)
9							
10	51.13	0.0018	=B10	=NORMSDIST((NORMSINV(C10)+0.788))	=D10	=A10	=E10*F10
11	83.64	0.0012	=B11+C10	=NORMSDIST((NORMSINV(C11)+0.788))	=D11-D10	=A11	=E11*F11
12	98.1	0.0117	=B12+C11	=NORMSDIST((NORMSINV(C12)+0.788))	=D12-D11	=A12	=E12*F12
13	102.02	0.053	=B13+C12	=NORMSDIST((NORMSINV(C13)+0.788))	=D13-D12	=A13	=E13*F13
14	107.55	0.8693	=B14+C13	=NORMSDIST((NORMSINV(C14)+0.788))	=D14-D13	=A14	=E14*F14
15	108.66	0.0595	=B15+C14	=NORMSDIST((NORMSINV(C15)+0.788))	=D15-D14	=A15	=E15*F15
16	109.19	0.0033	=B16+C15	=NORMSDIST((NORMSINV(C16)+0.788))	=D16-D15	=A16	=E16*F16
17	109.37	0.0002	=B17+C16	=NORMSDIST((NORMSINV(C17)+0.788))	=D17-D16	=A17	=E17*F17
18	Total	=SUM(B10:B17)			=SUM(E10:E17)		=SUM(G10:G17)
19							step 411
20							=G18/(1+5%)
21							step 412
22							
23							

Note: NORMINV and NORMDIST are replaced here with NORMSINV and NORMSDIST.

NO MATERIAL CHANGE TO EXAMPLE.

Table 11.

Estimated Probability Distribution for Earthquake Payoff

27	Column 11A	Column 11B	Column 11C
28	step 503		step 503
29	Richter	Payout	Estimated
30	Scale	Amount (\$)	Probability
31			
32	0-5.9	-	0.8
33	6	100	0.02
34	6.1	110.52	0.018
35	6.2	122.14	0.0162
36	6.3	134.99	0.01458
37	6.4	149.18	0.01312
38	6.5	164.87	0.01181
39	6.6	182.21	0.01063
40	6.7	201.38	0.00957
41	6.8	222.55	0.00861
42	6.9	245.96	0.00775
43	7+	271.83	0.06974
44	Total		=SUM(C32:C43)

	A	B	C	D	E	F
1						
2	Table 12.					
3	Wang Price for the Earthquake Insurance (Lambda=-0.3)					
4						
5	Column 12A	Column 12B	Column 12C	Column 12D	Column 12E	Column 12F
6	step 504	step 504	step 505	step 507	step 508	step 509
7	Payout	Estimated	Cumulative	After Wang	Distorted	Weighted
8	Amount (\$)	Probability	Probability	Transform	Probability	Payoff (\$)
9						
10	0	0.8	=B10	=NORMSDIST((NORMSINV(C10)+-0.3))	=D10	=E10*A10
11	100	0.02	=B11+C10	=NORMSDIST((NORMSINV(C11)+-0.3))	=D11-D10	=E11*A11
12	110.52	0.018	=B12+C11	=NORMSDIST((NORMSINV(C12)+-0.3))	=D12-D11	=E12*A12
13	122.14	0.0162	=B13+C12	=NORMSDIST((NORMSINV(C13)+-0.3))	=D13-D12	=E13*A13
14	134.99	0.01458	=B14+C13	=NORMSDIST((NORMSINV(C14)+-0.3))	=D14-D13	=E14*A14
15	149.18	0.01312	=B15+C14	=NORMSDIST((NORMSINV(C15)+-0.3))	=D15-D14	=E15*A15
16	164.87	0.01181	=B16+C15	=NORMSDIST((NORMSINV(C16)+-0.3))	=D16-D15	=E16*A16
17	182.21	0.01063	=B17+C16	=NORMSDIST((NORMSINV(C17)+-0.3))	=D17-D16	=E17*A17
18	201.38	0.00957	=B18+C17	=NORMSDIST((NORMSINV(C18)+-0.3))	=D18-D17	=E18*A18
19	222.55	0.00861	=B19+C18	=NORMSDIST((NORMSINV(C19)+-0.3))	=D19-D18	=E19*A19
20	245.96	0.00775	=B20+C19	=NORMSDIST((NORMSINV(C20)+-0.3))	=D20-D19	=E20*A20
21	271.83	0.06974	=B21+C20	=C21	=D21-D20	=E21*A21
22	Total	1.00000			1.00000	=SUM(F10:F21)
23						
24	Note: NORMINV and NORMDIST are replaced here with NORMSINV and NORMSDIST.					
25	NO MATERIAL CHANGE TO EXAMPLE.					
26						
27						
28	Table 13.					
29	Wang Price of the Contingent Payoff on the Earthquake Insurance					
30						
31	Column 12A	Column 12E	Column 13A	Column 13B		
32	step 504	step 508	step 515	step 516		
33	Payout	Distorted	Contingent	Weighted		
34	Amount (\$)	Probability	Payoff (\$)	Payoff (\$)		
35						
36	0	0.705960269425301	=MAX(A36-200,0)	=B36*C36		
37	100	0.0248829095209593	=MAX(A37-200,0)	=B37*C37		
38	110.52	0.0228857988739289	=MAX(A38-200,0)	=B38*C38		
39	122.14	0.021031956703558	=MAX(A39-200,0)	=B39*C39		
40	134.99	0.0193141441526106	=MAX(A40-200,0)	=B40*C40		
41	149.18	0.0177221032888744	=MAX(A41-200,0)	=B41*C41		
42	164.87	0.0162566246851219	=MAX(A42-200,0)	=B42*C42		
43	182.21	0.0149029054683743	=MAX(A43-200,0)	=B43*C43		
44	201.38	0.0136579133254033	=MAX(A44-200,0)	=B44*C44		
45	222.55	0.0125026726956566	=MAX(A45-200,0)	=B45*C45		
46	245.96	0.0114455093046882	=MAX(A46-200,0)	=B46*C46		
47	271.83	0.119447192555524	=MAX(A47-200,0)	=B47*C47		
48	Total			=SUM(D36:D47)		
49					step 517	
50					=D48/(1+7%)	
51					step 518	

	A	B	C	D	E	F
1						
2	Table 14.					
3	A Variation of Table 12, Using Exceedence Probabilities					
4						
5	Column 12A	Column 12B	New Column 12C	New Column 12D	Column 12E	Column 12F
6	step 504	step 504	step 505_new	step 507_new	step 508_new	step 509
7	Payout	Estimated	Exceedence	After Wang	Distorted	Weighted
8	Amount (\$)	Probability	Probability	Transform	Probability	Payoff (\$)
9						
10	0	0.8	=1-SUM(\$B\$10:B10)	=NORMSDIST((NORMSINV(C10)+0.3))	=1-D10	=E10*A10
11	100	0.02	=1-SUM(\$B\$10:B11)	=NORMSDIST((NORMSINV(C11)+0.3))	=-(D11-D10)	=E11*A11
12	110.52	0.018	=1-SUM(\$B\$10:B12)	=NORMSDIST((NORMSINV(C12)+0.3))	=-(D12-D11)	=E12*A12
13	122.14	0.0162	=1-SUM(\$B\$10:B13)	=NORMSDIST((NORMSINV(C13)+0.3))	=-(D13-D12)	=E13*A13
14	134.99	0.01458	=1-SUM(\$B\$10:B14)	=NORMSDIST((NORMSINV(C14)+0.3))	=-(D14-D13)	=E14*A14
15	149.18	0.01312	=1-SUM(\$B\$10:B15)	=NORMSDIST((NORMSINV(C15)+0.3))	=-(D15-D14)	=E15*A15
16	164.87	0.01181	=1-SUM(\$B\$10:B16)	=NORMSDIST((NORMSINV(C16)+0.3))	=-(D16-D15)	=E16*A16
17	182.21	0.01063	=1-SUM(\$B\$10:B17)	=NORMSDIST((NORMSINV(C17)+0.3))	=-(D17-D16)	=E17*A17
18	201.38	0.00957	=1-SUM(\$B\$10:B18)	=NORMSDIST((NORMSINV(C18)+0.3))	=-(D18-D17)	=E18*A18
19	222.55	0.00861	=1-SUM(\$B\$10:B19)	=NORMSDIST((NORMSINV(C19)+0.3))	=-(D19-D18)	=E19*A19
20	245.96	0.00775	=1-SUM(\$B\$10:B20)	=NORMSDIST((NORMSINV(C20)+0.3))	=-(D20-D19)	=E20*A20
21	271.83	0.06974	0	0	=-(D21-D20)	=E21*A21
22	Total	1.00000			=SUM(E10:E21)	=SUM(F10:F21)
23						
24	Note: NORMINV and NORMDIST are replaced here with NORMSINV and NORMSDIST.					
25	NO MATERIAL CHANGE TO EXAMPLE.					
					step 511	
					=F22/(1+7%)	
					step 512	

	A	B	C	D	E	F
1						
2	Table 15.					
3	An Insurance Policy Covering the Total Loss of a Satellite Launch (Lambda=0.2, Degrees of Freedom=11)					
4						
5	Column 15A	Column 15B	Column 15C	Column 15D	Column 15E	Column 15F
6				steps 601-606		
7	Loss	Estimated	Cumulative	After Two-Factor	Distorted	Weighted
8	Amount (\$)	Probability	Probability	Wang Transform	Probability	Value (\$)
9	x	f(x)	F(x)	F*(x)	f*(x)	x f*(x)
10	0	0.96000	=B10	=1-TDIST((NORMSINV(C10)-0.2),11,1)	=D10	=(E10*A10)
11	2000000000	0.04000	=B11+C10	1	=D11-E10	=(E11*A11)
12	Total	1.00000				
13						
14						
15	Note: NORMINV is replaced here with NORMSINV.					
16	NO MATERIAL CHANGE TO EXAMPLE.					